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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TALBOT, MICHAEL

ART UNIT PAPER NUMBER

3722

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/806,679	Applicant(s) DASCH, JEAN M.	
	Examiner Michael W. Talbot	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 8 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kammermeier et al. '825 in view of Jamison's publication entitled "New Developments in Microporous Polymer Lubricants" dated May 1985. Kammermeier et al. '825 shows in Figure 1 a drill tool for rotational cutting engagement under pressure with a work piece surface having a rod-shaped body comprising a cutting portion (2) with a cutting surface (7) at one end and an attachment portion (1) at the other end, at least one helical flute (3) extending from cutting surface, at least one hole (10) extending in a helical path along the length of the body and within the body from a first outlet (13) near the cutting edge to a second outlet (8) from the body. Kammermeier et al. '825 further shows in Figure 5 lubricant stored within the hole comprising a capillary storage medium (33a) for holding a volume of lubricant when the cutting tool is not in use and for discharging/releasing the lubricant to the cutting surface when under operation (col. 8, lines 19-44). Kammermeier et al. '825 further shows that the source of the lubricant at the cutting surface can be solely from the volume stored within the holes (col. 8, lines 44-48) wherein the dispenser is eliminated and the holes extend through the shank (like as shown by holes 10c in Figure 6).

Kammermeier et al. '825 lacks the capillary storage medium (33a) in the holes being of a solid polymer matrix comprising a micro-porous polyethylene matrix and lubricating oil having a composition of oil being more than 50 percent by weight.

Jamison's publication shows in Table 1 on page 275 common polymers, such as polyethylene, used in micro-porous polymer lubricants having up to 80 percent oil by weight (page 274, right column, lines 12-14) for industrial applications within the "bearing art" as well as "other machine parts requiring lubrication" (page 274, left column, lines 1-10). Drilling or cutting tools require lubrication to assist in extending the life of the tool by reducing the heat generated and the wear experienced at the cutting tips during operation. In view of this teaching of Jamison's publication, it would have been obvious to one of ordinary skill in the art to modify the drilling tool of Kammermeier et al. '825 with another well-known micro-porous polymer lubricant having up to 80 percent oil by weight taught by Jamison's publication to provide a controlled lubricant dispensing rate under the influence of external forces, elevated temperatures and/or capillary action, which in turn will extend the tool life and, where possible, eliminate or reduce the need for additional lubricant storage, sealing and mechanical pumping/delivery means.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kammermeier et al. '825 in view of Jamison's publication entitled "New Developments in Microporous Polymer Lubricants" dated May 1985. Kammermeier et al. '825 in view of Jamison's publication does not disclose expressly that the capillary storage medium (33a) is of a solid polymer matrix comprising a micro-porous polyethylene matrix and lubricating oil having a composition of oil being more than 50 percent by weight. Instead, Kammermeier et al. '825 in view of Jamison's publication indicate that the capillary storage medium holding the lubricant is of a sinter material, with sponge-like cavities or a fibrous material. At the time of the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to select a micro-porous polyethylene matrix because Applicant has not disclosed that the a micro-porous polyethylene matrix provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected

Art Unit: 3722

the cutting tool of Kammermeier et al. '825 in view of Jamison's publication, and Applicant's cutting tool to perform equally well with either the capillary storage medium being of a sinter material, with sponge-like cavities or a fibrous material taught by Kammermeier et al. '825 in view of Jamison's publication or the claimed micro-porous polyethylene matrix because both constructions would perform as a lubricant storage medium when not in operation and deliver/release the stored lubricant during cutting operations through the capillary action.

Furthermore, Applicant does not provide any criticality or unexpected results for the storage medium being a solid polymer comprising a micro-porous polyethylene matrix as recited in claims 1 and 4.

3. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kammermeier et al. '825 in view of Jamison '925. Kammermeier et al. '825 shows in Figure 1 a drill tool for rotational cutting engagement under pressure with a work piece surface having a rod-shaped body comprising a cutting portion (2) with a cutting surface (7) at one end and an attachment portion (1) at the other end, at least one helical flute (3) extending from cutting surface, at least one hole (10) extending in a helical path along the length of the body and within the body from a first outlet (13) near the cutting edge to a second outlet (8) from the body. Kammermeier et al. '825 further shows in Figure 5 lubricant stored within the hole comprising a capillary storage medium (33a) for holding a volume of lubricant when the cutting tool is not in use and for discharging/releasing the lubricant to the cutting surface when under operation (col. 8, lines 19-44). Kammermeier et al. '825 further shows that the source of the lubricant at the cutting surface can be solely from the volume stored within the holes (col. 8, lines 44-48) wherein the dispenser is eliminated and the holes extend through the shank (like as shown by holes 10c in Figure 6).

Art Unit: 3722

Kammermeier et al. '825 lacks the capillary storage medium (33a) in the holes being of a solid polymer matrix and a lubricating oil.

Jamison '925 shows in Figures 1-7 a number of different lubricant-dispensing polyethylene concentrations and their effectiveness to bleed oil to the surface and perform a desired lubricating function. In view of this teaching of Jamison '925, it would have been obvious to one of ordinary skill in the art to modify the drilling tool of Kammermeier et al. '825 with another well-known lubricant-dispensing medium such as polyethylene plastic compositions, as taught by Jamison '925 to provide a controlled lubricant dispensing rate under the influence of external forces, elevated temperatures and/or capillary action, which in turn will extend the tool life and, where possible, eliminate or reduce the need for additional lubricant storage, sealing and mechanical pumping/delivery means.

Response to Arguments

4. Applicant's arguments filed on 17 November 2005 have been fully considered but they are not persuasive.

Both the Kammermeier et al. '825 and Jamison's publication entitled "New Developments in Microporous Polymer Lubricants" dated May 1985 disclose a capillary storage medium wherein the lubricant/oil is dispensed from the storage medium through capillary action, centrifugal force and/or temperature increase to the cutting surface. In addition, they both are used in an equivalent environment to solve friction and wear problems through the use of lubricants.

Specifically, Kammermeier et al. '825 clearly shows in Figure 5 that the lubricant channels of the twist drill can be filled within a capillary storage medium wherein the lubricant/oil is dispensed from the storage medium through centrifugal force and/or temperature increase to the cutting surface (col. 3, lines 4-20 and col. 8, lines 19-44).

Art Unit: 3722

Jamison's publication entitled "New Developments in Microporous Polymer Lubricants" dated May 1985 also discloses a capillary storage medium made of a porous polymer having a ratio up to 80 percent oil by weight (page 274, right column, lines 12-19) and is used in "machine parts" requiring lubrication (page 274, left column, lines 1-10) to solve friction and wear problems. Drilling and cutting tools also experience similar friction and wear problems, and through the use of lubricants, the heat generated and the wear experienced at the cutting tips are reduced thus extending the life of the tool.

Therefore it would have been obvious to one of ordinary skill in the art to make the combination replacing the capillary storage medium of Kammermeier et al. '825 with another well-known lubricant-dispensing medium, micro-porous lubricant polymer, as taught by Jamison's publication.

Conclusion

5. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mr. Boyer D. Ashley, may be reached at 571-272-4502.

In order to reduce pendency and avoid potential delays, group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 571-273-8300. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.



MWT
Examiner
24 January 2006

BOYER D. ASHLEY
SUPERVISORY PATENT EXAMINER

